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(54) Title: FUEL CELL SYSTEM AND GAS LEAK DETECTION METHOD

(57) Abstract: When a command for stopping electric generation by a fuel cell is issued, shutoff valves are closed (at time t1), and then a time-dependent change in pressure (P) in a closed passage area including the fuel cell is detected. A pressure change speed (dP1, i.e., an inclination of L1) when the pressure (P) is in a first pressure range (Ra) in the vicinity of atmospheric pressure and a pressure change speed (dP2, i.e., an inclination of L2) when the pressure (P) is in a second pressure range (Rb) that is on a high pressure side of the first pressure range (Ra) are detected, and both the pressure change speeds (dP1, dP2) are compared with each other. When a difference between both the pressure change speeds (dP1, dP2) is equal to or larger than a predetermined value (Pc), it is determined that there is a hole in an electrolyte membrane of the fuel cell.